

I. AMENDMENTS TO THE CLAIMS:

Kindly amend claims 5 and 11, and add new claim 15-17 as follows.

The following Listing of Claims will replace all prior listings, and versions, of claims in the present application.

Listing of Claims:

1. (Previously Presented) A method of manufacturing a heat-resistant ceramic core with a three-dimensional shape used to cast a hollow flow passage by precision casting, comprising the steps of:

forming an oxide ceramic core with the three-dimensional shape from resin-covered ceramic powder;

impregnating oxide ceramics reinforcing liquid into the formed ceramic core, wherein the oxide ceramics reinforcing liquid is impregnated in a pressure reduced vessel; and

sintering the impregnated ceramic core in an atmosphere at 1100 degrees centigrade or more to strengthen the heat resistance thereof,

wherein the impregnated ceramic core is placed in heat-resistant powder to prevent the impregnated ceramic core from deforming, and the core is heated together with the heat-resistant powder.

2. (Previously Presented) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 1, wherein said oxide ceramics reinforcing liquid comprises colloidal silica, silica precursor, alumina sol, yttrium oxide sol, niobium oxide sol, or zirconia sol.

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 1, wherein the ceramics reinforcing liquid is an inorganic binder, and during impregnation of the ceramic core the inorganic binder ~~smoothly~~ replaces air in the ceramic core.

6. (Previously Presented) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 5, wherein impregnation of the ceramic core with inorganic binder occurs over about 5 to 10 minutes.

7. (Previously Presented) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 1, wherein the resin-covered ceramic powder comprises zircon powder covered with a phenol resin or silica powder covered with the phenol resin.

8. (Previously Presented) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 1, further comprising the step of:
confining the ceramic core in wax and then forming a heat-resistant shell around the ceramic core confined in wax.

9. (Currently Amended) A method of manufacturing a heat-resistant ceramic core with a three-dimensional shape used to cast a hollow flow passage by precision casting, comprising:

a powder lamination shaping step for forming an oxide ceramic core with the three-dimensional shape from resin-covered ceramic powder;

an impregnation step for impregnating oxide ceramics reinforcing liquid into the formed ceramic core, wherein the oxide ceramics reinforcing liquid is impregnated in a pressure reduced vessel; and

a sintering step for sintering the impregnated ceramic core in an atmosphere at 1100 degrees centigrade or more to strengthen the heat resistance thereof,

wherein the impregnated ceramic core is placed in heat-resistant powder to prevent the impregnated ceramic core from deforming, and the core is heated together with the heat-resistant powder.

10. (Previously Presented) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 9, wherein said oxide ceramics reinforcing liquid comprises colloidal silica, silica precursor, alumina sol, yttrium oxide sol, niobium oxide sol, or zirconia sol.

11. (Currently Amended) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 9, wherein the ceramics reinforcing liquid is an inorganic binder, and during impregnation of the ceramic core the inorganic binder ~~smoothly~~ replaces air in the ceramic core.

12. (Previously Presented) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 11, wherein impregnation of the ceramic core with inorganic binder occurs over about 5 to 10 minutes.

13. (Previously Presented) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 9, wherein the resin-covered ceramic powder comprises zircon powder covered with a phenol resin or silica powder covered with the phenol resin.

14. (Previously Presented) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 9, further comprising:

a wax injection molding step for confining the ceramic core in wax and then forming a heat-resistant shell around the ceramic core confined in wax.

15. (NEW) A method of manufacturing a heat-resistant ceramic core with a three-dimensional shape used to cast a hollow flow passage by precision casting, comprising the steps of:

forming an oxide ceramic core with the three-dimensional shape from resin-covered ceramic powder, wherein the resin-covered ceramic powder comprises zircon powder covered with a phenol resin or silica powder covered with the phenol resin, and the phenol resin forms a resin film on each powder grain that thermally decomposes at 200 to 400°C;

impregnating oxide ceramics reinforcing liquid into the formed ceramic core, wherein the oxide ceramics reinforcing liquid is an inorganic binder impregnated in a pressure reduced vessel, and during impregnation of the ceramic core the inorganic binder replaces air in the ceramic core, wherein impregnation of the ceramic core with inorganic binder occurs over about 5 to 10 minutes;

preheating the impregnated ceramic core to about 200 to 400°C to thermally decompose the resin film; and

sintering the impregnated ceramic core in an atmosphere at 1100 degrees centigrade

or more to strengthen the heat resistance thereof,

wherein the impregnated ceramic core is placed in heat-resistant powder to prevent the impregnated ceramic core from deforming, and the core is heated together with the heat-resistant powder.

16. (NEW) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 15, further comprising the step of:

confining the ceramic core in wax and then forming a heat-resistant shell around the ceramic core confined in wax.

17. (NEW) The method of manufacturing the heat-resistant ceramic core with a three-dimensional shape specified in claim 16, wherein said oxide ceramics reinforcing liquid comprises yttrium oxide sol or niobium oxide sol, or a combination of yttrium oxide sol and niobium oxide sol.